REMARKS

The Applicants appreciate the Examiner's thorough examination of the subject application. Applicants request reconsideration of the subject application based on the following remarks.

Claim 2 has been amended. No new matter has been introduced into the application by the instant amendments. Support for the amendments may be found throughout the specification as filed and in the originally presented claims. More particularly, support for the amendment to claim 2 can be found, for example at page 52, penultimate line to page 53, line 3.

Claims 2 and 14 were rejected under 35 U.S.C. §112, second paragraph as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter of the invention.

The claims, as amended, are fully compliant with the requirements of 35 U.S.C. §112, including the requirements of §112, second paragraph. Applicants respectfully request withdrawal of the rejection and reconsideration of the claims.

Claims 1,2, and 12-14 were rejected under 35 U.S.C. §103(a) as being allegedly anticipated by Ames (U.S. Patent Publication 2002/0038007) in view of Maratos-Flier (U.S. Patent 5,849,708) and Bolton et al. (*Biochem. J.*, 1973, 133:529-539).

The rejection is traversed.

Claim 1, as amended, provides screening assays for new compounds capable of binding to SLC-1 which assays utilize MCH derivatives, particularly a ^{125}I labeled derivative of MCH(4-

19), e.g., [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) which was prepared using the Bolton-Hunter (BH) reagent.

In contrast, Ames recites variants of SLC-1 prepared by splicing. Ames neither discloses nor suggests MCH derivatives and more particularly does not disclose or suggest iodo derivatives of MCH (such as radiotopically labeled iodo derivatives). Moreover Ames neither discloses nor suggests the use of iodized MCH derivatives such as [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) in methods of screening for compounds capable of binding to SLC-1.

No combination of Ames, Maratos-Flier and/or Bolton teach or suggest the use of iodinated MCH derivative, particularly radiolabelled [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) in assays to screen for other compounds capable of binding to SLC-1. Moreover, no combination of the cite documents provide any motivation to prepare [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) for any purpose or to prepare a kit comprising a buffer and [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19).

It is generally known to those of ordinary skill in the art that the physiological activity of MCH is destroyed by iodinization such that iodized MCH is not suitable for use in binding assays. For example, when MCH was labeled with iodide, the activity of the iodized derivative was reduced by 3.5 fold compared to unlabeled MCH. Similarly, iodized MCH derivatives {MCH(2-19), MCH(3-19), and MCH(5-19)} each possess reduced agonist activity compared to MCH. Consequently, tritiated MCH derivatives have been prepared and used in binding assays (See, *J. Receptor Signal Transduct. Res.*, Vol 15, pp. 487-502 (1995)).

The specification provides data showing that various iodized MCH derivatives, prepared using the BH reagent, have reduced binding affinity for SLC-1 when compared to MCH. Data

was obtained using the GTPγS binding assay. See Examples 22 and 23 and Figures 8 and 9 of the instant specification and the Declaration under Rule 1.132 executed by Dr. Mori attached herewith as Appendix A.

Applicants have surprisingly discovered that iodized MCH(4-19) possesses increased agonist activity than MCH itself. That is, [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^{4}}-MCH(4-19) possesses a greater binding affinity for SLC-1 than MCH. This result is shown in Example 22 and Figure 8 of the present invention and the Declaration under Rule 1.132 executed by Dr. Mori attached herewith as Appendix A. Applicants have further discovered that BH-MCH(4-19) exhibits high SLC-1 binding specificity (see Example 23 and Figure 9 of the present invention).

Thus, the superior affinity data for BH-MCH(4-19) compared to other MCH derivatives and MCH itself would not have been expected to one of ordinary skill in the art based on any combination of the documents relied upon in formulating the outstanding §103 rejections.

Claims 1, 2, and 12 are patentable over any combination of Ames, Maratos-Flier, and Bolton. Claim 13 and 14 depend from claim 1 or 14 and are therefore also patentable over any combination of the cited documents Ames, Maratos-Flier, and Bolton.

Claims 1,2, and 12-14 were rejected under 35 U.S.C. §103(a) as being allegedly anticipated by Salon (U.S. Patent 6,221,616) in view of Maratos-Flier (U.S. Patent 5,849,708) and Bolton et al. (*Biochem. J.*, 1973, 133:529-539).

The rejection is traversed.

Claim 1, as amended, provides screening assays for new compounds capable of binding to SLC-1 which assays utilize MCH derivatives, particularly a ^{125}I labeled derivative of MCH(4-

19), e.g., [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) which was prepared using the Bolton-Hunter (BH) reagent.

In contrast, Salon recites an MCH receptor, which has an amino acid sequence with 99.8% homology to that of SLC-1. However, Salon neither discloses nor suggests any MCH derivatives and more particularly does not disclose or suggest iodinated MCH derivatives such as [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19). Salon neither discloses nor suggests MCH derivatives and more particularly does not disclose or suggest iodo derivatives of MCH (such as [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19)) or screening assays using same.

No combination of Salon, Maratos-Flier and/or Bolton teach or suggest the use of iodinated MCH derivative, particularly radiolabelled [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) in assays to screen for other compounds capable of binding to SLC-1. Moreover, no combination of the cite documents provide any motivation to prepare [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19) for any purpose or to prepare a kit comprising a buffer and [^{125}I]-{N-(3-(4-hydroxy-3-iodophenyl)propionyl)-Met^4}-MCH(4-19).

It is generally known to those of ordinary skill in the art that the physiological activity of MCH is destroyed by iodinization such that iodized MCH is not suitable for use in binding assays. For example, when MCH was labeled with iodide, the activity of the iodized derivative was reduced by 3.5 fold compared to unlabeled MCH. Similarly, iodized MCH derivatives {MCH(2-19), MCH(3-19), and MCH(5-19)} each possess reduced agonist activity compared to MCH. Consequently, tritiated MCH derivatives have been prepared and used in binding assays (See, *J. Receptor Signal Transduct. Res.*, Vol 15, pp. 487-502 (1995)).

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Thus, the superior affinity data for BH-MCH(4-19) compared to other MCH derivatives and MCH itself would not have been expected to one of ordinary skill in the art based on any combination of the documents relied upon in formulating the outstanding §103 rejections.

Claims 1, 2, and 12 are patentable over any combination of Salon, Maratos-Flier, and Bolton. Claim 13 and 14 depend from claim 1 or 14 and are therefore also patentable over any combination of the cited documents Salon, Maratos-Flier, and Bolton.

Applicants request reconsideration of the claims and allowance of the application.

Although it is not believed that any additional fees are needed to consider this submission, the Examiner is hereby authorized to charge our deposit account no. 04-1105 should any fee be deemed necessary.

Early consideration and allowance of the application are earnestly solicited.

Respectfully submitted,

April 28, 2004

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